

What is claimed is:

1. A power transmission device comprising:

(a) a driving gear having gears over an entire circumferential surface thereof;

(b) a follower gear including an intermittent gear having a toothless portion; and

(c) a controller for controlling the follower gear to be engaged with or disengaged from the driving gear,

wherein each of the driving gear and the follower gear is a helical gear.

2. The power transmission device of claim 1, further comprising a starter for enabling the follower gear to be engaged with the driving gear when the controller controls the follower gear to be disengaged from the driving gear.

3. The power transmission device of claim 1, wherein the follower gear comprises a first follower gear, and a second follower gear which is engaged with the first follower gear.

4. The power transmission device of claim 1, wherein the second follower gear has a helical gear over an entire circumferential surface thereof.

5. A sheet feeding apparatus comprising:

a sheet feeding roller driven by the power transmission device and the follower gear described in claim 1.